



TESCOR

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SURFACE CALORIMETER



Tescor's Surface Calorimeters are designed to provide the customer with extreme accuracy, repeatability and flexibility in the determination of heat exchanger thermal capacities in accordance with [*ASHRAE Standard 33*](#). We offer a complete line of surface calorimeters for automotive and commercial air conditioning applications. Surface Calorimeters are used to determine the capacities of such components as: *Radiators, Condensers, Evaporators, Heater Cores, Oil Coolers, Charge Air Coolers, Tube Surfaces, Chilled Water Coils, etc.* The surface calorimeters utilize temperature controlled chambers for the control of air temperature over the heat exchangers. These ambient conditions are precisely controlled and recorded. Tescor uses Code Testers to determine system air-flows and the psychrometric conditions of the air as it exits the test piece. The code testers include AMCA nozzles with a bypass system to allow a wide range of system air-flows without sacrificing system accuracy. The calorimeter offers control over such parameters as ambient temperature and humidity, test piece air flow, compressor speed, discharge pressure, condenser inlet temperature, expansion device inlet temperature, suction temperature, heater core inlet temperature, pressures and flows, etc. The calorimeter is supplied with a fully automated computer data acquisition and control system and is designed for heat balances of $\pm 2\%$ with a repeatability of $\pm 1\%$.



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Surface Calorimeter
Typical Specifications

PARAMETER	CONTROL RANGE	STABILITY
Ambient Chamber Temperature	40 to 130 °C	± 0.2°C
Ambient Chamber Dew Point	3 to 40°C	±0.2°C
Discharge Pressure	10 to 35 kg/cm ² A	± 0.2 kg/cm ²
Suction Pressure	0 to 7 kg/cm ² A	± 0.05 kg/cm ²
Liquid Temperature	15 to 100°C	± 0.2°C
Air Flow	90 to 2630 m ³ / hr	±0.5%
Glycol Flow	0 to 40 LPM	±0.2 LPM
Glycol Temperature	50 to 110°C	±0.2°C

- Software
 - Create Tests And Sequences for Automatic Operation
 - User configurable data acquisition channels
 - User configurable calculation channels
 - Loop Calibration Utility
 - Dedicated hardware checkout routine
 - Color coded stability status indicators
 - Stability tolerance adjustment on the fly
 - Time-history graphing capability
 - Automatic Test Report Generation
 - Data File Management and Search Tools

- Performance Measurement
 - 2% agreement or better fluid side to air side
 - 1% repeatability of test results

Note: The specifications shown above are typical for condenser and radiator testing. Tescor can customize your system to provide the testing capability and performance that you desire.

Tescor manufactures a full line of Climate Control Test Equipment for the Automotive and HVAC marketplace including the following: *A/C System Calorimeters, Compressor Endurance Test Stands, Compressor Calorimeters, Clutch Test Stands, Compressor Noise Test Benches, Compressor Audit Benches, Psychrometric Test Rooms, Balanced Ambient Calorimeters, Compressor Slug Test Benches, Air Flow Code Testers, and Environmental Test Chambers.*